

FIGHTER COMMAND™

THE BATTLE OF BRITAIN



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1.0 INTRODUCTION

Fighter Command is a strategic game that allows players to recreate the Battle of Britain. The game covers the critical period from 13 August through 15 September 1940, when the few hundred pilots of RAF Fighter Command held the fate of England in their hands. Players direct the RAF squadrons and Luftwaffe Gruppen which participated in the battle, observing the movement of units in response to their tactical guidance on any of four maps of southern England.

Fighter Command can be played either as a 2-player game, or solitaire, with the computer playing the German side. Before playing the game for the first time, it is recommended that you read the rules at least through section 10, paying particular attention to sections 5 and 6, which describe the commands and options available to the German and British players. Then become familiar with the Player Aid cards, especially the map showing the location of cities, airfields, radar sites, assembly points, etc. Finally, boot the game disk and select the one-day Eagle Day scenario from the Start-up menu, since it is the shortest and easiest to learn.

1.1 Starting a Game (DOS 3.2 or DOS 3.3)

To begin a game, boot your game disk and the game will begin automatically. If you are using an Apple II with Pascal, you must first use your BASICS disk. If you are using an Apple III, you must first go into Apple II Emulation Mode.

1.2 Saving a Game

At the end of each "day", and at the end of each player's briefing and orders phase, you will be asked if you wish to save the game in progress. If you choose to save the game, you will need a scratch disk to store the data. The scratch disk must be initialized for SSI use by following the instructions included in the program. Once the game is saved, you will be able to restart it from the point at which you left off.

2.0 GENERAL DESCRIPTION

2.1 Parts Inventory

- A. Game Box
- B. Battle Manual
- C. 5¼" Game Disk
- D. Map of Southern England
- E. German Player Aid Card
- F. British Player Aid Card
- G. Counters

2.2 Definition of Terms

2.2.1 Altitude — The elevation in thousands of feet that a unit is assigned to fly in performing its mission.

2.2.2 Assembly Point — One of 4 locations over German-occupied France where Luftwaffe forces assemble before moving in formation toward their objective. A fifth North Sea "Assembly Point" is really an "arrival point", where Luftflotte 5 aircraft from Norway first appear on the map.

2.2.3 Bomb Load — The weight, in hundreds of pounds, of bombs typically carried on a mission against England by a single Luftwaffe aircraft in 1940.

2.2.4 Damage Points — A measure of total damage inflicted by Luftwaffe aircraft on British cities, airfields or radar sites. One damage point is equal to a one per cent reduction in the production or operating capability of the target.

2.2.5 Endurance — The length of time a particular aircraft type may remain in the air before being forced to land for refueling.

2.2.6 Escort Tactic — The procedures to be followed by German fighters while escorting bombers on a mission. Options are High, Loose and Close.

2.2.7 Experience — A measure of the average amount of combat experience of the pilots in a unit; values range from a low of 0 to a high of 9. Experience and morale are measured in increments of .1 (tenths).

2.2.8 Feint/Sweep — A German mission undertaken for the purpose of

deceiving the RAF into committing fighters needlessly, or to engage RAF fighters in attrition dogfights.

2.2.9 Luftwaffe/Luftflotte — The Luftwaffe is the German Air Force; a Luftflotte, or Air Fleet, is the highest organizational subdivision of the Luftwaffe.

2.2.10 Morale — A measure of the enthusiasm, spirit, dedication, etc., of a unit. Values range from a low of 0 to a maximum of 9.

2.2.11 Radar Site — An installation located on the southern or eastern coast of England, which was used to detect groups of flying aircraft. There were two types of radar sites: Chain Home (CH), designed to detect high-flying aircraft, and Chain Home Low (CHL), for the detection of low-flying aircraft.

2.2.12 RAF/Fighter Command/Group — The RAF is the Royal Air Force; Fighter Command is the RAF organization containing all fighter aircraft; and a Group is the highest organizational subdivision of Fighter Command.

2.2.13 Readiness — The alert state of a British unit. Extremes are Runway Alert, where the planes are lined up on the runway with engines running, waiting to take off, and 2-Hour Call, where units don't have to be available until 2 hours after being notified.

2.2.14 Sector Airfield — A major airfield which is the headquarters for several squadrons, some of which may be based at separate satellite airfields.

2.2.15 Serviceable Aircraft — The number of aircraft available for immediate operations, usually about 75-90% of the total aircraft in a unit.

2.2.16 Time/Time Step — Time is indicated according to the 24-hour clock. Possible hours of play each day are 0600-1800. Play proceeds in time steps of 2 minutes each, during the time German aircraft are in the air.

2.2.17 Unit — The smallest operational air organization in the game. For the RAF, this is the Squadron, usually consisting of 12-18 aircraft, and identified by a number (e.g., 74 Squadron). The standard Luftwaffe unit is the Gruppe, which normally contains 30-36 aircraft. It is identified by a type abbreviation and one or two numbers (e.g., JG 26/1).

2.3 Map Descriptions

The basic game map is a section of southern England, northwestern France, and the English Channel. A status board summary of currently detected German raids is shown on the right side of the screen, with the current time displayed just below this area. Text messages are displayed on the bottom portion of the screen. British airfields are denoted on the map by a green plus (+) symbol, radar sites by a white dot, and cities by an orange region. The estimated location of German raids are indicated by a swastika symbol (卐), and British squadrons in the air are denoted by a rounded symbol (O).

The scale of the basic map is approximately 2 miles per screen plotting element (pixel); the map covering a 270 by 200 mile area. Three additional maps are available, covering important portions of the main map on a more detailed scale of approximately one-half mile per pixel. These maps each cover an area of approximately 90 by 60 miles.

3.0 SEQUENCE OF PLAY

There are 5 different scenarios in Fighter Command, covering from one to 34 days. The sequence of play for each day is summarized below.

3.1 German Briefing Phase

During this phase the German player will be able to review the results of the previous day's action, determine the operational readiness of the different types of aircraft in each of his 3 Luftflotten, examine the latest intelligence estimates on damage to targets in England and on RAF strength, and check the latest weather forecast.

3.2 German Orders Phase

The German player orders his units to conduct missions against the British.

3.3 British Briefing Phase

The British player is able to review yesterday's action, check on

Fighter Command readiness, examine intelligence on Luftwaffe strength and possible intentions, and learn what his weather forecasters are predicting.

3.4 British Orders Phase

The British player may order changes in the readiness state or disposition of his units, establish dawn patrol stations, or change his default tactics options.

3.5 British Intercept Phase

The British player observes information presented to him on the mapboard display, and takes various actions to defend against the attacking German aircraft. He may request information, change readiness states, re-deploy units, establish new patrol stations, and assign units to intercept German formations. The German player may watch the screen during this phase but is not allowed to look at displays other than the four maps.

3.6 Computer Overnight Activity Phase

The computer determines the number and disposition of replacement aircraft and pilots, updates unit experience and morale factors, evaluates the extent of repairs to damaged aircraft and British targets, and prepares reports for the following morning briefings.

3.7 Victory Determination Phase

If the scenario is completed, or if specified victory conditions have been achieved, the game is concluded and the final results are displayed.

4.0 GERMAN FORCES

4.1 Aircraft Types

There are six different German aircraft types which were involved in the Battle of Britain. Two of these are fighters, and the other four are bombers. Additional information about each aircraft type is available on the Player Aid cards, and in the Historical Notes.

4.1.1 ME-109E 'Emil'

The best German fighter in the game is the Me-109. It is superior to every British aircraft except the Spitfire. The Me-109 also is available in greater numbers than any other German aircraft. The one weak point of the Me-109 is its endurance; it is only able to escort raids about as far as London. (See the Player Aid map for a line showing the approximate range limit for the Me-109.) One Me-109 unit, EG 210/3, can be used as dive bombers.

4.1.2 ME-110C 'Zerstorer'

The Me-110 is a fast aircraft with good endurance, but is outclassed as a fighter by the Spitfire and Hurricane. There are two Me-110 units, EG 210/1 and EG 210/2, which can be used as dive bombers.

4.1.3 JU-88A

The Ju-88 is the fastest and most numerous of the German bombers. It is able to outrun the slower British interceptors, but can't defend itself very effectively if intercepted.

4.1.4 DO-17Z

The Do-17 is only found in Luftflotte 2, but it appears there in fairly sizable numbers. It is a fast level bomber with average performance in most other categories.

4.1.5 HE-111H

Having the heaviest bomb load of any German bomber, the He-111 is probably best utilized against industrial targets. It has a relatively low ceiling, and is slower than the other German level bombers.

4.1.6 JU-87B 'Stuka'

The Stuka is a slow, vulnerable dive bomber with a light bomb load and very limited endurance. It can only go about as far as the Me-109 (see the range limit on the map). In sufficient numbers, however, it can be very effective against radar installations in low, hit-and-run raids.

4.2 Organization

4.2.1 Luftflotte

The three Luftflotten which participated in the Battle of Britain are numbers 2, 3, and 5. The largest of these, Luftflotte 2, also played the most important role in the Battle from the German side. Located in the northwest corner of occupied France, it is in the closest proximity to England.

Luftflotte 3 is based to the south and west of Luftflotte 2, placing it more to the south of England. This Luftflotte contains the bulk of the Stuka dive bombers, but no DO-17's.

Luftflotte 5 is located initially in Norway, a distance of more than 300 miles from targets in central England. Only 6 units in Luftflotte 5 participated in the Battle of Britain, and one of these, JG 77/2, could not reach England and return with its ME-109's. The German player will be given the opportunity on 7 September to transfer some or all of the Luftflotte 5 units to France. This transfer will have the penalties of removing the units from action for one day, and of potentially releasing some British squadrons from 13 Group to be transferred south.

4.2.2 Geschwader and Gruppe

The next organizational level below the Luftflotte is the Geschwader. These are identified as to type of aircraft according to the following notation:

Name	Description	Aircraft
JG Jagdgeschwader	Single-engine fighters	ME-109E
ZG Zerstörergeschwader	Twin-engine fighters	ME-110C
KG Kampfgeschwader	Level bombers	JU-88A DO-17Z HE-111H
STG Stukageschwader	Dive bombers	JU-87B
EG Erprobungsgeschwader	Experimental units	ME-109E ME-110C
LG Lehrgeschwader	Elite training units	Various

Each Geschwader is composed typically of three Gruppen, designated by Roman numerals. (Conventional numbers replace Roman numerals in the game, for the sake of brevity and display compactness.) Three special detached units are included in Luftflotte 2. These are termed Kampfgruppe (KGR), and are elite specially-trained units.

4.3 Tactics

The tactical elements which are within the German player's control in Fighter Command are formation size, mission altitude, approach direction, multiple raid timing, primary and secondary target selection, fighter escort doctrine, and the use of feints and sweeps. These options are described more completely in the German Raid Scheduling section (6.2).

5.0 BRITISH FORCES

5.1 Aircraft Types

Five British aircraft types are included in Fighter Command, although only two — the Spitfire I and the Hurricane I — participate in significant numbers. Additional information about each aircraft type is available on the Player Aid cards and in the Historical Notes.

5.1.1 Spitfire I

The Spitfire is the best British fighter in the game. It is the fastest, fastest climbing, and best at dogfighting with German fighters, particularly the Me-109.

5.1.2 Hurricane I

The most numerous British fighter is the Hurricane. It is second best in ability to the Spitfire, being slower, less maneuverable, and having less endurance. However, the Hurricane is more than able to deal effectively with any German aircraft except the Me-109.

5.1.3 Blenheim I

Designed as a light bomber rather than a fighter, the Blenheim is really out of its element going after anything other than unescorted German bombers. It has excellent endurance, but is rather slow, and is at a decided disadvantage against any German fighters.

5.1.4 Defiant

The Defiant is, like the Blenheim, fairly effective against German bombers, but very ineffective against German fighters. It is faster than the Blenheim, but with much more limited endurance.

5.1.5 Gladiator

There is only one Gladiator squadron in the game, and it starts with less than a full complement of aircraft, so it doesn't play a major role. The Gladiator's one advantage is a high climb rate, but, like the Blenheim and Defiant, it is only effective against German bombers.

5.2 Organization

5.2.1 Groups

Four Fighter Command Groups were active during the Battle of Britain, with 11 Group, located in southeast England, playing the dominant role. 11 Group contains the best, and the most, aircraft of any of the Groups. Located to the west of 11 Group is 10 Group. Its responsibility is the defense of southwest England and Wales, particularly against attacks by Luftflotte 3 from the south. To the immediate north of 11 Group is 12 Group. It serves as a back-up to 11 Group for raids to the south and east of London, and defends the interior of England. The northernmost Group is 13 Group. Its airfields do not appear on the game maps, and so its fighters appear on an initial entry point on the north edge of the map, after a suitable delay. The role of 13 Group is both as a place to allow units to rest and improve their morale, and to defend against raids from Norway by Luftflotte 5.

5.2.2 Sectors

The control of individual Fighter Command squadrons was exercised during the Battle of Britain through a network of sector airfields. Controllers at the sector airfields directed the squadrons located at the sector airfield, as well as squadrons based at satellite airfields. Extensive damage to a sector field can have a delaying effect on the operation of squadrons at these satellite airfields, as well as at the damaged sector field. (All squadrons based at some sector fields were occasionally referred to as a Wing, e.g., the Kenley Wing.)

5.2.3 Squadrons

The basic British organizational unit is the squadron. Squadrons are designated by a number, with no particular pattern for different aircraft types. (For example, 600 Squadron contains Blenheims, 601 Squadron has Hurricanes, and 602 Squadron flies Spitfires.)

5.3 Tactics

Tactical options for the British player include unit deployment locations, setting readiness conditions, specifying which German raids are to be intercepted by which squadrons, assigning priority to escorts or bombers as interception targets, and designating attack urgency and aggressiveness. These options are described under the appropriate British Commands sections (7.2 and 7.3).

6.0 GERMAN COMMANDS

The German player initiates the action each day with his Briefing and Raid Scheduling phases. Once German forces have been assigned to their targets, the role of the German player becomes that of observing the British player's responses to his raids.

6.1 German Briefing Phase

Information is presented to the German player at the beginning of each new day in the form of a morning staff briefing. The same four topics — yesterday's operations, readiness, intelligence, and weather — are covered each day. A briefing report may be reviewed by pressing the left or right arrows until the report name is highlighted, then pressing the space bar.

6.1.1 Yesterday's Operations

This briefing report presents a summary of the results of any raids conducted yesterday.

6.1.2 Intelligence

The intelligence report provides a summary of damage to British targets and British aircraft losses since the start of the scenario. This is in

contrast to the report on yesterday's operations, which contains intelligence on only one day's activities. The target damage summary lists all targets which have received more than 50% damage, and which German intelligence believes have not yet been repaired to less than a 50% damage level. Estimates of British initial strength, losses and replacements are used to prepare the table of RAF Fighter Command estimated current strength.

6.1.3 Readiness

The current status of the Luftwaffe is portrayed in the readiness report. Separate pages for each of the three Luftflotten indicate, by aircraft type:

- number of Gruppen
- total number of aircraft
- number of aircraft available for operations
- number of pilots available
- average experience and morale levels

Totals for all aircraft types in each Luftflotte also are shown, and the grand totals for the entire Luftwaffe are shown at the end of the report.

6.1.4 Weather

The German meteorologists' best estimate of the expected percent cloud cover over southern England is provided in this report, along with a short interpretation of the likely effects of that amount of cloud cover on operations. A more complete description of weather and its effects is given in section 15.

6.2 Raid Scheduling Phase

This phase begins with the question "Do you want to launch any raids against the British today?" If the answer is "No", then the British Intercept Phase will be omitted, and play will proceed directly from the subsequent British Briefing and Orders Phases to the Computer Overnight Activity Phase. If your answer is "Yes" (you do want to launch raids today), then you will be prompted through the raid-scheduling process as described below.

6.2.1 Target Type Selection

There are three ground target types: airfields, industrial centers, and radar stations. There is also the option of assigning units to a FEINT or SWEEP mission (if bombers are present it is a feint; if only fighters are assigned, it is a sweep). When all raids have been assigned, the DONE option will complete the German Raid Scheduling Phase and all German activity for the current day.

6.2.2 Target Selection

Each raid against a ground target may be assigned both a primary and a secondary target. A raid will always proceed to its primary target first, and will attack that target unless unable to because of clouds. If the primary target is obscured, the raid will attempt to fly to and bomb its secondary target. Feints and sweeps are assigned a turn-around point instead of a target. This is the point the raid will fly to before turning around and returning to base. There are no secondary targets for feints and sweeps.

Targets may be selected either by typing in the name of the target, or moving the highlight cursor to the desired target name and pressing the space bar.

6.2.3 Assembly Point Selection

There are five locations used by German aircraft to assemble into their bombing formations. These assembly points, and the Luftflotten which can use them are:

Location	Luftflotte
Calais	2
Dieppe	2 or 3
Le Havre	2 or 3
Cherbourg	3
North Sea	5

Selection of an assembly point also determines the Luftflotte assignment in three of the five cases, and narrows it down to two in the other two cases. Each raid (except from Luftflotte 5) will spend an amount of time orbiting its assembly point before proceeding to its assigned target; the length of time being proportional to the size and assigned altitude of the raid.

6.2.4 Offset Approach Point Selection

A raid will proceed straight towards its primary target, unless an offset approach point is selected. The offset approach point is an intermediate point which can be used to deceive the British player about the location of the intended target. The penalty for using an offset approach is, of course, that the raid will spend more time in the air. This may permit additional British squadrons to intercept the raid, and may force short endurance German aircraft to return home early. The location of the offset approach point is selected using a cursor (+) symbol on the game map. The I, J, K, and M keys will move the cursor up, left, right and down, respectively; the 'space' bar stops cursor movement; and the A key selects the current cursor location as the offset approach point.

6.2.5 Target Arrival Time Selection

The desired arrival time over the target is entered as a single 3 or 4 digit number in 24-hour notation (e.g., 715, 1430). This will be converted to an assembly point departure time, based on the total flying distance to the target and the speed of the slowest aircraft in the raid.

6.2.6 Assignment of Forces

Bomber units are assigned to a raid first, followed by the escorting fighters. A running total of the number of fighters and bombers assigned is continuously displayed on the top left-hand side of the screen. After a particular aircraft type has been chosen, all available German units of that type in the previously identified Luftflotte will be displayed on the right side of the screen. The left and right arrows can be used to move the selection cursor up or down. The number of serviceable aircraft available, and the experience and morale levels of the highlighted unit, are shown on the left side of the screen. The space bar will select the currently highlighted unit.

Escort tactics must be specified each time a fighter type (ME-109E or ME-110C) is selected. The tactics options and their implications for German fighter and bomber losses, and British fighter losses, are shown below.

Escort Tactic	German Losses		British Losses
	Fighters	Bombers	Fighters
Close	High	Low	Low
Loose	Medium	Medium	Medium
High	Low	High	High

6.2.7 Altitude Selection

The final item to be specified for a raid is the altitude over the target, in kilofeet (thousands of feet). The raid will fly at this same altitude from the time it leaves the assembly area until it returns there at the completion of its mission. One exception to this is that dive bombers will always dive below one thousand feet when releasing bombs over their target.

6.2.8 German Availability

German bombers may only fly one mission per day. German fighters may fly two missions per day as long as the target arrival times are at least four hours apart.

7.0 BRITISH COMMANDS

7.1 British Briefing Phase

The British morning briefing covers the same four topics as are covered in the German briefing — yesterday's operations, intelligence, readiness, and weather — plus a fifth topic — damage summary. To review a report, use the right and left arrow keys until the desired report is highlighted, then press the space bar.

7.1.1 Yesterday's Operations

This briefing report summarizes the results of any raids conducted yesterday. Information presented includes the number of German raids detected, number of targets bombed, and the number of friendly and enemy aircraft lost. All numbers are accurate, except for enemy losses, which is an estimate (usually optimistic).

7.1.2 Intelligence

The British intelligence report contains an estimate of the German aircraft losses and replacements since the start of the scenario, and the estimated Luftwaffe current strength. Just like the German intelligence report, the Luftwaffe current strength estimate can be expected to be

high early in a scenario, and tending toward the low side late in the scenario because of the overly optimistic enemy loss estimates.

7.1.3 Readiness

The current status of each RAF squadron is presented in the readiness report. Separate listings for each of the four RAF Groups indicate the number of serviceable aircraft, number of pilots, aircraft type, and experience and morale levels. A summary at the end presents the total number of serviceable aircraft of each type for all of Fighter Command.

7.1.4 Damage Summary

The current damage state of each target is presented in this report, grouped by target type. For airfields and radar sites, the current operational status also is indicated.

7.1.5 Weather

British weather forecasts of the expected cloud cover over southern England will usually be more accurate than the German forecasts, but seldom perfect. The forecast for the current day is presented in this report, accompanied by an interpretation of the likely operational effects of that weather.

7.2 British Orders Phase

Orders which the British player may issue to his forces at the start of each day are:

Change Default Readiness and Tactics

Establish Fighter Patrol Stations

Change Individual Squadron or Airfield Readiness

Transfer Squadrons Between Airfields

Most of the above orders also can be given during the Intercept Phase, and their use will be covered in more detail in the Intercept Phase section (7.3).

7.2.1 Change Default Readiness and Tactics

Default values are used in the absence of any other information as a means of minimizing the number of decisions the British player must make during the Intercept phase. A default readiness state can be specified for each of the four Air Groups. All units in a Group will be placed in the default readiness state at the start of the day unless a different state was specified using the Change Squadron/Airfield Readiness order.

Three default tactics can be specified for each British aircraft type. These tactics are target priority, urgency, and aggressiveness. Target priority options are to attack fighters, bombers, or either. The presence of German escorting fighters and their tactical doctrine affects the probability of attacking the desired target type. Intercept urgency options are immediate attack, intermediate, and bounce. An immediate attack will result in the highest probability of successful intercept in the shortest possible time, but will also cause friendly losses to be higher. The bounce option will take longer, but will cause higher enemy losses and lower friendly losses, if intercept occurs. Aggressiveness can be specified using a scale of 1 to 9, with 1 being cautious and 9 being daring. Increased aggressiveness causes their expected losses on both sides to increase.

7.3 British Intercept Phase

The "play of the game" in Fighter Command really takes place during the British Intercept Phase. In this phase, the British player receives contact reports on German raids, assigns interceptors, and adjusts squadron locations and readiness states. The commands which are available to allow the British player to perform these tasks are described below.

7.3.1 Airfield Status (A)

This command provides information on the damage state of an airfield. It also lists all squadrons currently at the field, their aircraft type, number of serviceable aircraft, and alert state.

7.3.2 Britain Map (M)

This command is used to return the original map of southern England, along with the Raid Status Summary Display, to the screen.

7.3.3 Change Readiness (C)

The readiness state of an individual squadron or all the squadrons at a particular airfield can be changed using this command.

7.3.4 Establish Patrols (E)

British squadrons can be assigned to patrol stations using this

command. The cursor is used to select the patrol station location, and then the number of the squadron which will occupy that station is requested. The standard altitude for patrol stations is ten thousand feet. There may be up to ten patrol stations occupied at one time. When a squadron on patrol has 20 minutes remaining before being forced to return to refuel, the British player will be asked if he wants to send a replacement squadron, or abandon the patrol station. Squadrons on patrol which sight a German raid will attempt to intercept and attack that raid. **Squadrons on patrol may be told to intercept a raid by using the I command and entering the squadron number. In order to intercept, the squadron must first reach its own station position.**

7.3.5 German Raid Identification (G)

This command will show you the plot symbol for a given raid designator by flashing that symbol on and off briefly.

7.3.6 Intercept German Raids (I)

This is the command which permits interceptors to be ordered into the air against German raids. The selection of which squadrons to assign can be made in one of three ways: identifying the squadron directly, selecting an airfield and then choosing a squadron from that field, or listing all available squadrons in a particular Group and selecting the intercepting squadron from that list. The plot symbol for the squadron will appear as soon as the squadron is in the air.

7.3.7 London Map (L)

This command causes the detailed map of the area around London to be displayed.

7.3.8 Midlands Map (M)

This command causes the detailed map of the Midlands region, just north of London, to become the background map.

7.3.9 Pause (P)

Pause simply causes program execution to be suspended temporarily.

7.3.10 Radar Status (R)

This command permits determination of the current damage state of all radar stations.

7.3.11 Southern Map (S)

This command causes the detailed map of the southernmost region to be displayed.

7.3.12 Transfer Units (T)

This command is used to move squadrons from one airfield to another. The squadron to be transferred is first identified, and then a list of all airfields is displayed to aid in the selection of the destination. Transfers cause a unit to become unavailable for a 2-hour period upon arrival at its new base. Transferred units will remain at their new airfield until transferred again. Transfers executed during the British Orders phase will occur during the evening (thus the planes will be available for use at 0600). Each group may contain up to 35 squadrons. **Each sector airfield may hold up to four squadrons while non-sector airfields may hold up to two squadrons.**

7.3.13 Group Status (0, 1, 2, 3)

These commands are used to list all squadrons in a Group, together with the aircraft type, number of serviceable aircraft, airfield and alert state. The command to use is the last digit of the Group number, e.g., a '1' will call up the report for 11 Group.

8.0 INTELLIGENCE

Intelligence is information on the status of enemy forces and targets, and on enemy intentions. The accuracy of intelligence information varies from very good to wild guesses. In general, British intelligence will be more accurate than the German intelligence. In addition, the British player will receive occasional reports on his opponent's intended bombing targets, which simulates the use of ULTRA to break the German codes.

8.1 Enemy Forces and Targets

The morning briefing for each side contains an estimate of the current strength of the opponent's air forces. This estimate is based on an accumulation of the estimated enemy losses and replacements during the battle, and an assumed strength at the start of the scenario. All of these estimates will tend to be higher than what is actually true, especially for

enemy losses. This will cause the total strength estimate to be high early, and to tend toward the low side late in the scenario. For the German report, the level of opposition encountered in the most recent day's raids is used to "validate" the intelligence information. The RAF strength estimates will be revised upward if higher than expected opposition is encountered, and downward if the opposition is lighter than intelligence predictions.

The German intelligence report contains a listing of all British targets which are estimated to have a current damage level greater than 50%. The contents of this report are derived from original damage reports from returning raids, and from the presumed occurrence of reconnaissance flights. Reconnaissance flights do not actually occur in the game, but their likely results are reflected in the damage estimates. Therefore, these estimates are likely to be better if there was good weather yesterday, and worse if the weather was bad.

8.2 Special Intelligence

The British intelligence report occasionally will contain a special piece of intelligence information, which is presumed to have come from the breaking of German codes. This intelligence will contain the target of one of the German raids scheduled for the current day. This information is normally quite reliable, and can be used to optimize the British defense against this particular raid.

9.0 RADAR AND VISUAL SEARCH

The two principal means of detecting German raids are radar and visual. German raids will not be reported to the British player until they have been detected by one or the other of these methods, or until they bomb their target.

9.1 Radar Search

The British have 26 radar stations located along the south and east coasts of England. These radar stations are of two types: Chain Home (CH), used to detect high-flying aircraft; and Chain Home Low (CHL), used to detect low-flying aircraft. There are 12 CH sites and 14 CHL sites, which are identified on the map, on the Player Aid card, and in the Radar Status and Damage Summary reports. The CH radars are capable of detecting aircraft up to 80 miles away, although detection ranges of 30-50 miles are more common. The minimum altitude for CH radar detection is 3,000 feet. CHL radars can detect aircraft flying below 6,000 feet at ranges out to 40 miles. Radar detection probabilities are proportional to the number of aircraft in a raid and the altitude at which the raid is flying.

9.2 Visual Detection

The British Observer Corps are able to detect aircraft flying over England. Detection is more likely in better weather and at lower altitudes. Large raids are more readily detected than small ones. British fighter squadrons on patrol also can make visual detections. This is a useful tactic for filling in for damaged radar sites.

10.0 COMBAT

10.1 Air-to-Air

Combat between aircraft in the air occurs whenever British aircraft intercept German raids. Each air-to-air combat is assumed to take place between a single British squadron and a single German Gruppe. If more than one type of aircraft is present in a raid, then the particular Gruppe which will be engaged by an intercepting squadron is determined by a combination of the British target priority tactic and the German escort tactic. Losses inflicted on both sides also are a function of these same tactics. Other factors which affect aerial combat results are weather, altitude difference, experience, morale, aircraft types, and British aggressiveness and urgency. If a Bomber Gruppe is engaged by a British squadron and German fighter escorts are available, then there is

a possibility that a fighter Gruppe will counter-attack against the British squadron.

Losses occur to aircraft and pilots separately. An aircraft may be either damaged or destroyed, and its pilot may be killed, wounded or survive. The probability of both aircraft and pilot survival is higher the closer a unit is to its home base. All British fighter units will head for their home base immediately upon engaging in aerial combat. German bomber units which have sustained losses greater than 10% may abort their mission and return to base, depending upon the experience and morale of the unit. Once a unit has aborted its mission, it may no longer engage or be engaged in combat. German fighter units may remain after an engagement (this is influenced by the number of enemy planes damaged, i.e. the more enemy planes that are damaged in an engagement the greater the likelihood that the German unit will head home).

10.2 Air-to-Ground

The only units which may conduct air-to-ground combat are the German bomber Gruppen, and a few specialized fighter-bomber units. These latter units are indicated by the designator EG (ErprobungsGruppe). Whenever these units are assigned to attack a target, with no pure bomber aircraft types present, they will be assumed to be carrying bombs. However, if attacked prior to reaching the target, they will jettison their bombs and become normal fighters again. The damage inflicted by a German Gruppe bombing a target depends upon the number of aircraft, their altitude, the type of aircraft, the type of target, experience, morale, and the weather. Damage to radar stations is subject to considerable variability, since it takes a critical hit on the antenna or transmitter building to knock the station off the air. Damage to airfields is also quite variable, and damage to aircraft on the ground also can vary considerably. Aircraft on runway alert and aircraft that take off during the same 2-minute increment in which an airfield is bombed will not suffer damage to their aircraft.

Some aircraft types are more effective against particular target types than against others. Dive bombers and fighter-bombers are most effective against radar sites, and least effective against industrial targets, while the opposite is true of level bombers.

Each German bombing raid has a 15% chance that it will not attack the target due to poor intelligence. Many German missions were flown against worthless targets during the campaign due to poor German intelligence. Since we do not attempt to hide potential targets from the German player, the 15% rule was designed to account for this 'fog-of-war' factor.

10.3 Ground-to-Air

Each target is defended by anti-aircraft (AA) fire. The intensity of AA fire varies by target type, as indicated in the following list of descending AA intensity:

- London
- Aircraft industrial targets
- Other industrial targets
- Sector airfields
- Satellite airfields
- Radar sites

Industrial targets are the only ones that have AA capability against aircraft flying above 5,000 feet, since very little damage can be inflicted on airfields or radar sites by high-flying bombers. Losses to AA fire will be less at higher altitudes and in poorer weather.

11.0 PRODUCTION, MAINTENANCE AND REPAIRS

11.1 Production of New Aircraft

Each side receives new aircraft at the end of each day's play in approximately the same numbers as occurred during the actual Battle of Britain. Production of new aircraft for the British is affected by damage to its aircraft industry, however.

At full capacity, British production of new aircraft is about 6 per day for Hurricanes, 3 per day for Spitfires, and 2 per day for Blenheims and Defiants. Damage to each aircraft type production centers will reduce output in proportion to the current damage level. Damage to avionics industry cities will affect the production rate of all aircraft types. There is a 5-day delay before damage affects the delivery of aircraft, e.g., damage inflicted on the first day of play will not affect aircraft deliveries until after the fifth day of play.

German aircraft production rates are approximately 4 per day for Me-109s, 3 per day for Ju-88s, and between 1 and 2 per day for the other aircraft types.

The computer automatically assigns newly delivered aircraft to the units which have the fewest number of that particular aircraft type.

11.2 Repair of Damaged Aircraft

Each squadron or Gruppe can repair 1 or 2 aircraft per day, returning them to the serviceable category. There is an upper limit of between 75 and 90% on the number of serviceable aircraft in a unit.

11.3 Repair of Airfields, Radar Stations and Industries

Targets which have sustained damage will have the amount of damage reduced during the Computer Overnight Activity Phase. The amount of damage repaired depends on the target type: roughly 4% per day for industries, 10% per day for airfields, and 12% per day for radar stations. The repair rate is highly variable for radar stations, and fairly predictable for airfields and industries.

12.0 PILOT REPLACEMENTS

Pilots who are lost in combat are replaced from a reserve pool of pilots. The number of replacement pilots available is different for each aircraft type, and is essentially proportional to the number of aircraft of that type at the beginning of the game. The pilot replacement rate is about 80% of the new aircraft production rate for most aircraft types. This means that it is more difficult to replace pilot losses than aircraft losses. The British will usually feel the effect of any pilot shortage more rapidly than the Germans, since they start with fewer extra pilots in each unit. Replacement pilots are assigned automatically to the units which have the lowest ratio of pilots to aircraft.

13.0 UNIT QUALITY

13.1 Experience

Experience represents the average amount of exposure to combat by the pilots in a unit. This is a number from 0 to 9, with 0 representing no experience, and 9 a highly veteran unit. At the start of the Fighter Command time period, the German fighter units have the most experience, followed by the British Spitfire and Hurricane squadrons. A unit will undergo a fractional increase in experience each time it engages an enemy unit (only if friendly unit has an experience level under 5) and/or destroys an enemy aircraft and a fractional decrease in experience whenever a new pilot is assigned to the unit.

13.2 Morale

Morale is a subjective measure of the attitude or spirit of a unit, represented by values from 0 (low) to 9 (high). Morale will be affected positively by shooting down enemy aircraft, inflicting heavy damage on a target, being assigned to the 2-hour call (or to a lesser extent 30-minute alert) readiness state, or having a day off from combat. Negative morale changes are the result of combat losses, flying missions (including transfer missions), bombing of a squadron's home base (irrespective of whether the squadron is on the base at the time of the bombing), or remaining at a high readiness state for extended periods of time. A unit's morale will never rise above 6.0 from resting (i.e. success in combat is the only way to raise morale over 6).

13.3 Effects of Unit Experience and Morale

Units with higher morale and experience will be more accurate with

their bombs, and will be more successful in dogfights. Units with morale under 3 will have a much greater chance of being unable to locate the enemy. Note: A squadron with E/M of 5/5 will be much more effective than a squadron with E/M of 9/1 or 1/9.

14.0 UNIT AVAILABILITY

14.1 Readiness

British squadrons can be assigned to any of 5 readiness states, which represent the time required before they can take off to intercept a German raid. Readiness can be assigned either on a default basis for a Group or an airfield, or for an individual unit.

The highest readiness state is **RUNWAY ALERT**, where pilots are in their planes on the runway with the engines running. This is the only readiness state from which aircraft on the ground will automatically take off and avoid damage if their base is attacked. The maximum time a unit can be in this state is two hours. When this maximum time is reached, the unit will be unavailable for 20-40 minutes while refueling, and then will return to its Group's assigned readiness state.

COCKPIT ALERT is the next highest readiness state. The entire squadron can be in the air in 4 minutes from this alert condition. Assigning a unit to either Cockpit or Runway Alert will lower the morale of the unit (Runway Alert will cause a greater reduction in morale than Cockpit Alert).

The intermediate readiness condition is **HUT ALERT**. The time required to take-off is 8 minutes. A unit can remain in this readiness state indefinitely with no positive or negative morale effects.

As the name implies, it takes 30 minutes for a squadron to respond to an order if it is in the **30-MINUTE ALERT** state. If a unit is not assigned to a higher alert state during the day, it will have a slight morale increase.

The least responsive readiness condition is **2-HOUR CALL**. Units which are in this condition receive an increase in morale if they remain in it for the entire day.

14.2 Endurance

Each aircraft type has a maximum time that it can remain in the air. This endurance time affects both the distance German aircraft can fly in reaching their targets, and the amount of time a British squadron can remain on patrol or searching for a raid. Endurance values are shown in the data presented for each aircraft type. The units most affected by limited endurance are the German ME-109E fighters and JU-87B Stuka dive bombers. These units usually can only conduct raids about as far away as London. Larger raids and raids at higher altitudes spend *more* time in the assembly area, and thus reduce the distance which limited endurance aircraft can cover. The maximum range shown on the map assumes small raids at low altitude.

14.3 Refueling

When British aircraft return from a mission they must spend 20-40 minutes on the ground refueling before being able to return to action (determined at random).

15.0 WEATHER

15.1 Weather Generation and Prediction

Weather is expressed in terms of percentage of cloud cover. The actual cloud cover percentage is assigned using a procedure which insures having at least 3 days of relatively good weather and at least 2 days of relatively poor weather each week. Fair to good weather also is insured for the first and last day of each scenario.

Weather forecasts provided to the players are estimates of the actual cloud cover percentage, and can be in error by as much as 30 per cent. The forecasts provided to the British player are usually more accurate than those given to the German player.

15.2 Weather Effects

The cloud cover percentage significantly affects the likelihood that

a German raid will be able to find and bomb its assigned target(s). Similarly, the probability that a patrolling or intercepting British squadron will spot a German raid depends on the per cent of cloud cover. Non-combat aircraft losses also are much more likely when missions are flown in poor weather.

16.0 SCENARIO DESCRIPTIONS

16.1 Campaign

(13 August — 15 September 1940)

This scenario covers the 34-day period from Eagle Day on 13 August through the climactic great air battle on 15 September, celebrated as Battle of Britain day in England.

16.2 Phase I (13 August — 23 August 1940)

The Phase I scenario covers the critical opening week and one-half of the battle. The Germans' primary targets during this phase were the radar stations and RAF airfields.

16.3 Phase II

(24 August — 6 September 1940)

The middle 2 weeks of the battle are covered in Phase II. The intensity of the German raids was least during this phase of the actual battle, partly due to poor weather. The primary targets during this phase were the RAF sector airfields.

16.4 Phase III

(7 September — 15 September 1940)

The principal German target during the final week of the battle was London. Operations orders issued early in September also ordered Luftwaffe units to begin concentrating attacks on British aircraft factories.

16.5 Eagle Day (13 August 1940)

The start of the German air offensive against Britain was given the code name *Adlertag*, or Eagle Day. The two principal targets for this day were radar stations and airfields. However, because of faulty intelligence, several of the airfields the Germans actually attacked this day were Bomber and Coastal Command fields, and not Fighter Command's. This scenario, introductory in nature, is intended to produce an all-out assault by the Germans.

17.0 VICTORY CONDITIONS

The Germans have the obligation to initiate attacks in Fighter Command, and the victory conditions reflect the necessity for the Germans to achieve certain objectives. The British player's role is to prevent the German player (or the computer) from achieving these objectives.

Victory points are used to quantify the degree to which the German player is able to achieve each of his objectives. In the multi-day scenarios (all except Eagle Day), victory points are awarded for the following: damage to each of the 3 target types, difference in Luftwaffe average morale and Fighter Command average morale, ratio of German fighters to British fighters, British aircraft losses, and forcing the British player to pull back from basing any units in the three closest airfields (Manston, Lympne and Hawkinge). The German player loses points for German aircraft losses, and if the fighter ratio favors the British. The victory points associated with each item in each scenario are shown in the table on the next page. It also indicates the levels of victory associated with different

victory point totals.

CONDITION	CAMPAIGN	SCENARIO			
		PHASE I	PHASE II	PHASE III	EAGLE DAY
Victory points are awarded during the day for each of the following:					
Each British aircraft lost	+1	+1	+1	+1	+1
Each damage point to British aircraft industry (except London)	+1/2	+1/2	+1/2	+1	+1/2
Each damage point to British general industry	1/4	1/4	1/4	+1/2	1/4
Each damage point to London	+2*	0	0	+2	0
Each German bomber lost	-1	-1	-1	-1	-1
Each German fighter lost	0	0	0	0	-1
Victory points are accumulated at the end of each day, according to the following criteria:					
All British radars operational	-10	-20	-10	-10	-50**
Each Sector Airfield out of operation	+6	+9	+12	+6	+12†
Each Satellite Airfield out of operation	+2	+3	+4	+2	+4†
Ratio of German fighters to British fighters (FR)	15×FR	15×FR	15×FR	15×FR	—
Average German morale level less average British morale level (M)	10×M	10×M	10×M	10×M	10×M
If no British fighters are based at Hawkinge, Lympne or Manston	+5	+10	+10	+5	—
Each Radar Station out of operation	+2	+3	+2	+2	+3
Every 5% cloud cover	—	—	—	—	+1

*after 6 september only

† Points awarded for partial damage

** All British Radars excluding Ventnor operational

To determine the winner of a game, compare the victory point totals with this chart:

	PHASE I	PHASE II	PHASE III	CAMPAIGN	EAGLE DAY
BRITISH DECISIVE	<350	<500	<350	<1100	<10
BRITISH MARGINAL	350-499	500-699	350-499	1100-1499	10-24
GERMAN MARGINAL	500-699	700-999	500-699	1500-2099	25-44
GERMAN DECISIVE	>699	>999	>699	>2099	>45

18.0 STRATEGY NOTES

18.1 German Player

1. A good general rule to follow in assigning raids is to use at least as many escorting fighters as you have bombers. The farther into England the raid must go, the more fighters you need (and remember the Me-109 endurance limit!).
2. Use your elite units carefully. Their initial high experience and morale levels afford them a distinct advantage.

3. If your bomber losses are running too high, put more escorts with each raid, and assign more of them to the Close escort tactic. If fighter losses are too high, assign more escorts to the High escort tactic.

4. It is usually a good idea to concentrate your attacks in both time and area, i.e., saturate the British defenses. Use offset approach points to bring all raids in along the same path as much as possible.

5. A good strategy to follow is to make initial attacks against radars so that they won't be able to detect subsequent raids. Attack airfields after other targets, in the hope of catching more aircraft on the ground refueling.

6. It is generally best to attack radars at low altitude (below 1000 feet), airfields between 1 and 5 thousand feet, and cities above 5 thousand feet.

7. Don't fly many raids when the weather gets bad. There is too much chance of the target being obscured by clouds, and operational losses go up in bad weather.

18.2 British Player

1. Avoid demoralizing units unnecessarily by keeping too many of them assigned to high readiness states for too long. Give units with low morale the day off occasionally, or send them to 13 Group to rest up for a few days.

2. Use patrols to help screen against hit-and-run attacks on the radar stations and airfields located closest to France. They also can be used to fill in detection gaps caused by damaged radar stations, and to protect airfields where several squadrons are refueling.

3. Move your squadrons around occasionally so the German player doesn't know which airfields are in use.

4. Avoid overcommitting your interceptors to the first two or three raids. Some of these could be feints, and there could be many more raids coming.

5. Use your less capable aircraft to attack deep penetration raids, or raids which have been attacked several times already by Spitfires or Hurricanes.

19.0 CREDITS

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HISTORICAL NOTES

BACKGROUND

In the summer of 1940, the German armed forces were recovering from their victorious battle for France. In the West, only Great Britain, whose army had lost nearly all its equipment at Dunkirk, still resisted. In fact, the British position was so hopeless the Germans expected them to accept a peace settlement, leaving Germany in control of the continent and in position to deal with their real perceived enemy, the Soviet Union. When the British, led and encouraged by Winston Churchill, refused all German peace offers the German armed forces prepared for an invasion of the British Isles as the only way of finally subduing Britain.

As it had for centuries, the Royal Navy stood between Britain and its continental enemy. Since Germany could not hope to match British sea power in the channel, their only hope for a successful invasion lay in complete control of the air. If the Royal Air Force could be decisively defeated, the Luftwaffe could insure the success of the planned invasion of Britain.

LUFTWAFFE

As the Luftwaffe fighter and bomber Geschwaders established themselves on their newly won airfields on the French coast, they constituted what was undoubtedly the most powerful air force in the world. Losses over France and the Low Countries had been light and the Luftwaffe, under its arrogant and boisterous leader Hermann Goering, was prepared to deal the Royal Air Force the same quick defeat it had administered upon every other air force they had opposed.

While Goering provided more show than leadership, the Luftwaffe possessed ample strategic and tactical talent in men like Chief of the Air Staff, Generalmajor Hans Jeschonnek and the commander of Luftflotte 2, General der Flieger Albert Kesselring. Thanks to combat experience gained over Spain, Poland, Norway, Belgium, the Netherlands and France, the Luftwaffe aircrews, and particularly the fighter pilots, were the most skilled and capable combat fliers in the world. The German combat aircraft, tested in combat, had proven superior to anything it had faced. Surely, it would do so again against the Royal Air Force.

ME-109E. The "Emil", as it was affectionately called by its pilots, was the universal single seat/single engine fighter of the Jagdgeschwaders as they entered the Battle of Britain. It was fast, maneuverable, and well armed. It was clearly superior to any British fighter, with the exception of the Spitfire, which was pretty much its equal below 20,000 ft. The 109 had but one major flaw — it lacked range. This had not been significant over the continent. It would prove fatal in the Battle of Britain.

ME-110C. The Me-110 was the long-range escort and strike fighter of the Luftwaffe. It possessed the range capability which the Me-109 lacked. It was fast, well armed, and against the French and Poles had proven very capable. Over Britain, however, its lack of maneuverability and its sluggish acceleration would make it no match for the British single-seat fighters. The inability of the Me-110 to perform its long-range escort duties effectively over Britain would prove to be one of the decisive factors in the Battle of Britain.

HE-111H. To the British civilian, the He-111H, with the dull throbbing of its unsynchronized engines and its unmistakable silhouette, personified the "Jerry Blitz" better than any other German warplane. The 111 could carry an adequate bombload to any target in Britain, and conducted some highly successful attacks, including raids on Bristol and the Spitfire works in Southampton in September. However, it lacked the firepower or robustness to defend itself against the British 8-gun fighters and, if caught unescorted by 109's, its formations were often decimated.

DO-17Z. The Dornier Do-17z was known as the flying pencil due to its extremely slim fuselage. It shared, with the He 111, the major medium bomber duties in the Battle of Britain and, while somewhat faster, also shared the Heinkel's vulnerability to fighter attack if unescorted. The Dornier flew many hundreds of sorties over Britain during the summer of 1940 and its derivatives served actively throughout the war.

JU-87B. Throughout the series of German successes in Europe in 1939 and 1940, the JU-87 "Stuka" established a reputation as a supremely effective aerial weapon. However, against the aggressive fighters encountered over southern England, the slow speed and inadequate armament of the JU-87 led to disastrous losses. The Stuka was quickly limited to channel and coastal operations only, and then withdrawn from the battle altogether.

JU-88A. Of the several bomber types employed over Britain, the Ju-88 was, by far, the finest. While vulnerable to fighter attack when unescorted, as were all bombers of the time period, the Ju-88 was fast and maneuverable enough to make effective interception difficult for Spitfires and Hurricanes, and nearly impossible for Blenheims, Gladiators, or Defiants. The aircraft's most spectacular accomplishment over Britain occurred on the evening of 16 August when two JU-88's came in low and fast over an RAF training field and destroyed or damaged 63 aircraft, including 11 Hurricanes. One measure of the success of the JU-88 is the fact that it would eventually be built in greater numbers than all other German bomber types combined.

ROYAL AIR FORCE

After withdrawing from France, including nearly two weeks of constant combat over Dunkirk, the RAF prepared to meet the Germans over Britain itself. RAF Fighter Command was badly outnumbered, most of its fighters were significantly inferior to the ME-109, and its pilots lacked the combat experience of their German counterparts. Fighter Command did enjoy several advantages of its own, however. The British pilots would be flying over their own country, they would be guided and controlled by the best air defense system in the world, and their spirit, dedication, and courage was unsurpassed.

Perhaps as significant as any advantage possessed by Fighter Command was the strategic insight possessed by its commander, Air

Vice Marshal Sir Hugh Dowding. He realized that to win the Battle of Britain, the Luftwaffe had to gain control of the air over Southern England and the Channel. Fighter Command, on the other hand, had only to survive. Time alone would tell which way the scales of victory would tip, and it would be, in the end, by the narrowest of margins.

SPITFIRE I. The Spitfire I was the first aircraft capable of meeting the German ME-109 on an equal basis. It often took on the escorting fighters while the Hurricanes went after the bombers. Flown by skillful and experienced pilots like Doug Bader, Al Deere or Johnnie Johnson, the Spitfire was indeed deadly.

HURRICANE I. In the Battle of Britain, the Hurricane constituted approximately 60% of Fighter Command strength, and accounted for more enemy aircraft than any other type. The Hurricane was at a definite disadvantage against the ME-109, which was significantly faster, but it held its own on many occasions. Moreover, it was an excellent bomber interceptor and, if given an altitude advantage, could decimate a bomber formation quickly with its eight wing-mounted machine guns. The Hurricane, although not an outstanding performer, was there in numbers when the RAF needed it desperately.

DEFIANT. The Defiant was the first fighter in the world to incorporate a power-driven gun turret as its major armament. It achieved considerable initial success over Dunkirk, when German fighters would "bounce" it as they would a conventional fighter and thereby walk right into the considerable firepower of the dorsal turret. The Luftwaffe fighter pilots learned quickly, however, and began to attack the vulnerable underbelly of the Defiant, whose performance was considerably penalized by the weight of the turret and second crewman. The Defiant was withdrawn from regular day combat in late July when a formation of six was decimated by a flight of Messerschmitts.

GLADIATOR. The Gladiator was the last biplane fighter to serve in the RAF. It was totally unsuited for interceptor duties against the fast and well-escorted German formations and was an easy victim for the ME-109.

BLEMHEIM I. The Blenheim was a light bomber whose speed was superior to the pre-war fighters which were its contemporaries. For that reason, it was given a fixed forward firing armament and pressed into service as a fighter. Under the right circumstances, it could deal with an unescorted bomber formation but, if caught by escorting fighters — even the usually inept ME-110 — it was in for a bad time.

THE ACTUAL BATTLE

The long-anticipated Eagle Day, the start of the Luftwaffe aerial assault on Britain, actually opened with a series of blunders. The weather was not the best, so the attack was ordered delayed. But some units didn't get the word, and in the confusion which resulted the Germans eventually managed to mount only 1500 sorties, losing 45 aircraft to the British loss of 13.

The attack tempo remained heavy throughout the first week, with the Germans twice losing more than 70 aircraft in a single day, and British losses reaching 34 planes destroyed in one day, on 15 August. The major German targets were the radar stations and airfields. Fortunately for the British, the Germans did not concentrate their attacks strictly on Fighter Command fields, thus sparing these hard-pressed facilities from the brunt of the initial attacks.

British tactical doctrine during this period was to make defense of the sector airfields their top priority, and to have all interceptors go after the bombers, avoiding combat with the German fighters whenever possible.

During the second phase of the Battle, the Germans began to focus their attention almost exclusively on the 11 Group sector airfields. By the first of September these raids were beginning to have devastating effects. Six of the seven 11 Group sector fields were heavily damaged, and the British were losing about twice as many aircraft as they were receiving. Their pilot total was reduced almost 25%, and British morale was declining rapidly. German intelligence reports began to indicate that the British had very few operational fighters remaining.

But with victory apparently within their grasp, the Germans began shifting targets to the aircraft factories and to London. Granted an unexpected respite from the steady pounding they had been taking, the sector airfields soon were back in business. London, on the other hand, was heavily hit for the first time on 7 September. Most of the German

bombers sent to attack London on 9 September were turned back by vigorous British opposition, but a more determined attack on 11 September caused extensive damage. The Spitfire factory at Southampton was also badly damaged this same day, and the British lost more aircraft than the Germans for one of the few times during the Battle. Things were again looking bleak for the British.

On Sunday, 15 September, the final decisive daylight battle was fought. Almost 1000 German sorties were flown, and 60 aircraft failed to return. In the face of such a high loss rate, Hitler two days later ordered Operation Sea Lion, the planned invasion of England, to be postponed "until further notice", and the Battle of Britain was, in essence, declared lost by the Germans.



You never thought your computer could be this exciting!

If you have any questions or problems regarding the program or game, please send a self-addressed, stamped envelope with your question to Strategic Simulations, Inc., 883 Stierlin Road, Building A-200, Mountain Views, CA 94043-1983; or call (415) 964-1200 Mon., Tues., Thurs., or Fri.; 1-5 PM (P.S.T.)